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ABSTRACT

The intent of this study was to determine the extent to which preschool children's speech to self, their private speech, was differentiated from their social speech. Ten randomly chosen preschool children, six boys and four girls with a median age of 56 months, were observed in conditions supportive of oral communication (free play), and in conditions not supportive of oral communication (doing puzzles with a noncommunicative adult). The data suggested that the language of preschool children was sensitive to social context. Most private speech was generated in that situation where a response was likely to be elicited from another person. Discourse analysis showed that questions to self by preschool children had the same discourse structure as questions posed to another person. Analysis of individual utterances indicated that the children's private and social speech utterances were predicated (the syntactic subject was pronominalized or deleted). These data supported hypotheses that the language of young children is an outgrowth of their verbal interaction with another person. Thus, the private speech of preschool children in this study was undifferentiated from their social speech. (RL)

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The social orientation of private speech

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Running head: Social orientation

Young children's oral language has been commonly assigned into two mutually exclusive categories: egocentric, or private, speech and social speech (Piaget, 1974).[1] Piaget stated that egocentric speech, or speech not adapted to listeners' needs, was a result of the pre-operational child's inability to take a point of view other than his/her own. He stated that language developed from an egocentric to a sociocentric state and that social speech, or speech adapted to listeners' needs, developed only with the onset of concrete operations. Consequently, he posited that audience characteristics did not affect the quantity and quality of the preschooler's speech.

Other researchers, particularly Vygotsky (1962, 1978), Luria (1961), and Bruner (1974, 1975) hypothesized that very young children's language served a social function. Children's language, they argued, developed out of the social interaction between young children and their mothers while they were engaged in joint activities, such as "pointing, searching, (or), playing with specific objects" (Bruner, 1975, p. 265). Vygotsky (1962) stated that these dialogue strategies became gradually internalized by the young child. Preschoolers' private speech was placed at the mid-point of a developmental continuum, between the points where dialogue strategies were overt and social and where they became totally internalized. In this model, preschoolers' private and social speech were not differentiated. This non-differentiation hypothesis was supported experimentally by Vygotsky (1962) when he showed that private speech was generated only in contexts where there

[1]I would like to thank J.S. DeStefano, of the Ohio State University and L. Galda of the University of Georgia for their comments throughout the study.

was a possibility of eliciting a response from an auditor.

Similarly, because of preschoolers' nondifferentiated social and private speech, Mead (1934) and Pellegrini and DeStefano (in press) hypothesized that private speech resembled social speech on multiple and single utterance levels. In social speech Chafe (1970) found that speakers encoded the communicatively most valuable information in each utterance, i.e., new information, into the syntactic predicate and encoded the information already shared between interlocutors, i.e., old information, into the syntactic subject. Old information was often deleted or pronominalized in discourse, resulting in predicated utterances. Vygotsky noted a similar phenomenon, that individual private speech utterances were also predicated.

On the multiple utterance level, Mead (1934), who also believed that private speech originated in social dialogue, stated that groups of private speech utterances resembled social dialogue utterances. Social dialogue utterances were characterized as having discourse structure, i.e., a sequence of topically related utterances bound by beginning and end of topic and conversation markers (Hurtig, 1977). Thus, if groups of private and social speech utterances meet these same criteria they would be undifferentiated at the multiple utterance level.

To summarize, private speech is undifferentiated from social speech if the following hypothses are supported.

1. More private speech utterances are generated in a situation where utterances are likely to elicit responses than in a situation where responses are less likely.

2. Sequences of private speech utterances have discourse structure,

3. The syntactic structure of individual private speech utterances are predicated.

Method

A sample of 10 middle class preschoolers was randomly chosen from a classroom in a university lab school. The six boys and four girls ranged in ages from 50 to 60 months with a median age of 56 months.

Each child was videotaped with a Sony-matic Portable Videocorder in two 15 minute conditions: a free play condition and while doing jigsaw puzzles. Children were observed, in both conditions, in their preschool classroom; videotape equipment was frequently used in the classroom. In the puzzle condition, each child was asked to join the experimenter to do puzzles. The experimenter and one child sat at a table in an isolated corner of the room for 15 minutes. The child was given three puzzles to do while the experimenter read, not encouraging conversation. In the free play condition the same child was videotaped during his/her usual free play time. The order of condition presentation was randomly counterbalanced.

Utterances were coded as private speech if they were not directly addressed to a listener, as evidenced by lack of eye contact and reduced utterance volume. The reliability of the coding of social and private speech utterances was determined by randomly selecting twenty-five utterances from each condition and comparing the original codings with a second coding for the fifty utterances; an 86% agreement was recorded. Utterances were coded predicated if the syntactic subject was pronominalized or omitted. Groups of utterances had discourse structure if a sequence

of related utterances was bound by beginning and end of topic/conversation markers. To determine the extent to which private or social speech was used in each context a coefficient of egocentricism was calculated (Piaget, 1974). That is, for each child, in each condition, his/her total private speech utterances was divided by his/her total private and social utterances; the resulting quotient was the coefficient of egocentricism.

Results and Discussion

The first hypothesis, that preschoolers generated larger coefficients of egocentricism in a context supportive of communication than in a situation not supportive of communication was tested with the Wilcoxon Signed Rank Test (Hollander & Wolfe, 1973), and supported ($N=10$, $T+=55$, $p < .001$). That is, when coefficients for each child were compared across conditions, the coefficient observed in the play condition (.36) was significantly higher than the coefficient in the puzzle condition (.08).

(Insert Table 1)

The data in Table 1 are consistent with Vygotsky's (1962) findings which showed children's coefficients of egocentricism declining as they went from contexts supportive of discourse to contexts where their utterances were not responded to. To quote Vygotsky (1962):

> Egocentric speech, springing from the lack of differentiation of speech for oneself from speech for others, disappears when the feeling of being understood, essential for social speech, is absent (p. 137).

The second hypothesis, that sequences of private speech have

discourse structure, met Hurtig's (1977) criteria for discourse structure which consisted of a sequence of topically related utterances bound by conversational and topical markers. In this study the particular type of discourse examined was questions, because of their clearly marked conversational and topical boundaries. Conversationally, the beginning of questioning sequences was marked by an interrogative, e.g., Where. The topical beginning of questioning units was marked by a state of uncertainty to which the interrogative referred; that is, the conceptual content of the question, e.g., Where does it go?

The discourse structure of seventeen question-to-self sequences were examined to determine the extent to which they met the above outlined criteria for discourse. After children posed the interrogative phrase, marking the beginning of the discourse unit, they repeatedly made reference to the topical cortent of the interrogative in subsequent utterances. Questions were often repeated, reduced, and expanded, e.g., Where does this go in anyway? Where this go? In other cases, speakers clarified their reasons for posing questions, e.g., Which one should I start with? It's hard for me to know which one is which, you know that? Children also initiated questioning sequences as if they were directly eliciting feedback from a listener, e.g., Where do I put this one? Is that right?

The utterances which directly followed the initial interrogatives clarified the topical content of the interrogatives. Keenan (1977) posited that when a common proposition was repeated in a series of related utterances, that specific proposition became clarified through the process of adding new information to, i.e., expanding, or eliminating,

i.e., reducing, irrelevant words from subsequent utterances. For example, Where this goin anyway? Where this go? was an attempt to clarify the main proposition of the utterance, the location for a particular puzzle piece, through question reduction. The children asked and clarified questions in an effort to clarify their thoughts while solving the problems.

Repetition of initial interrogatives also related to the conversational boundaries of discourse. Merritt (1977) stated that in typical social question/answer sequences children expected the conversational slot following the initial interrogative to be filled by an answer to that question. By repeating interrogatives, children were applying this conversational rule to a private speech event. That is, children expected the question to be answered in a subsequent utterance by an external auditor.

In the above examples, children's questions-to-self resembled questions asked in situations involving two or more people. That is, the initial interrogatives marked the beginning of a state of uncertainty which the children were attempting to end. Next, the children attempted to clarify the topic of the interrogative by expansions and reductions. Questions were repeated to solicit help. In some cases, 23%, children posed, discussed, and answered their own questions.

Whereas the evidence presented for the second hypothesis examined groups of private speech utterances, the syntactic structure of individual private utterances was examined for the third hypothesis. The syntactic structure of a private speech utterance was coded predicated if the syntactic subject was pronominalized or deleted. When the predicated

utterances for each child within each condition were compared to non-predicated utterances it was found, using a Wilcoxon Signed Rank Test (Hollander & Wolfe, 1973), that a significant number of private speech utterances were predicated in both the puzzle (N=5, T+=15, $p < .031$) and play conditions (N=10, T+=54, $p < .002$).

(Insert Table 2)

Private speech utterances were predicated because, like social speech utterances, the new information was encoded into the predicate which resulted in pronominalized or deleted subjects. The new information in private speech was that information introduced into the speaker's consciousness for the first time (Wertsch, 1977). Old information in the syntactic subject was omitted or pronominalized because the speaker already had an implicit knowledge of that information; it did not relate to the actions which immediately engaged the speaker. Only new information was encoded because it needed to be made explicit in the speaker's mind (Wertsch, 1977). By verbally encoding immediate actions, the child became more conscious of the consequences of his/her individual actions (Pellegrini & DeStefano, in press). A similar phenomenon was observed in social speech by Chafe (1970). He observed that when two speakers converse, knowledge which they share, the old information, is often pronominalized and encoded into the syntactic subject; information introduced into the discourse for the first time is located in the syntactic predicate. Social discourse utterances tended to be predicated because the predicate contained the most important information; less relevent information, in the syntactic subject, was often deleted.

In conclusion, the data suggested that the language of preschool children is sensitive to social context. Most private speech was generated in that situation where a response was likely to be elicited from an auditor. Discourse analysis showed that preschoolers' questions-to-self had the same discourse structure as questions posed to an external auditor. Analysis of individual utterances indicated that preschoolers' private and social speech utterances were predicated. These data supported Vygotsky's (1962) and Bruner's (1974, 1975) hypotheses that young children's language is an outgrowth of their verbal interaction with another person. Thus, for preschoolers in this study private speech was undifferentiated from social speech.

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TABLE 1

Total speech and private speech utterances and coefficients of egocentricism by subject by condition

Social Orientation subject	Play			Puzzle		
	private speech	total speech	coefficient	private speech	total speech	coefficient
1	16	25	.64	2	17	.11
2	33	77	.42	0	7	0
3	21	131	.16	1	12	.08
4	5	69	.07	0	3	0
5	18	70	.25	0	9	0
6	42	61	.69	2	22	.09
7	54	125	.43	1	10	.1
8	5	13	.38	1	15	.06
9	40	99	.40	2	11	.18
10	34	80	.43	0	5	0
	268	750	.357	9	111	.081

TABLE 2
Syntactic structure of private speech utterances by condition by subject

Social Orientation

Subject	Play		Puzzle	
	Predicated	Non-predicated	Predicated	Non-predicated
1	10	6	2	0
2	21	12	0	0
3	8	13	1	0
4	2	3	0	0
5	10	8	0	0
6	31	11	2	0
7	36	18	1	0
	4	1	1	0
9	27	13	2	0
10	19	15	0	0